

Federation of Earth Science Information Partners Partnership Application

Please complete all sections to the fullest extent possible and forward completed application to: Carol Meyer, carol.meyer@earthsciencefoundation.org. If you have any questions, please contact her at 877.870.3747.

I. CONTACT INFORMATION

A. Primary Contact/Principal Investigator

Name: Robert Rank
NOAA/NESDIS/OSD/CLASS
Address: NOAA Satellite Operations Facility
4231 Suitland Rd, Suite 1144
Suitland, MD 20746
Phone: (301) 817-4593
Fax: (301) 817-4403
Email: robert.rank@noaa.gov

B. Designated Assembly Representative (could be same as above)

Name: Robert Rank
NOAA/NESDIS/OSD/CLASS
Address: NOAA Satellite Operations Facility
4231 Suitland Rd, Suite 1144
Suitland, MD 20746
Phone: (301) 817-4593
Fax: (301) 817-4403
Email: robert.rank@noaa.gov

C. Other Contacts

Name: Rick Vizbulis
NOAA/NESDIS/OSD/CLASS
Address: NOAA Satellite Operations Facility
4231 Suitland Rd, Suite 1160
Suitland, MD 20746
Phone: (301) 817-4603
Fax: (301) 817-4403
Email: rick.vizbulis@noaa.gov

Name: Khalid Alvi
NOAA/NESDIS/OSD/CLASS
Address: NOAA Satellite Operations Facility
4231 Suitland Rd, Suite 1158
Suitland, MD 20746
Phone: (301) 817-4591
Fax: (301) 817-4403
Email: khalid.alvi@noaa.gov

Name:
Address:
Phone:
Fax:
Email:

II. ABOUT YOUR ORGANIZATION

A. ORGANIZATION/DIVISION/PROJECT NAME:

The Comprehensive Large Array-data Stewardship System (CLASS)

B. OVERVIEW OF YOUR PRIMARY ACTIVITIES (250 words or less)

CLASS supports NOAA Archives by providing long-term, secure storage of and access to high-volume, environmental data, primarily those data collected by or derived from satellite-based observations. CLASS is a web-based data access and distribution system for NOAA's environmental data as well as the IT infrastructure for an enterprise solution for long-term, secure storage of and common access to NOAA Archive maintained environmental data and information. It is NOAA's premier online facility for the distribution of NOAA and U.S. Department of Defense (DoD) operational environmental satellite data (Geostationary and Polar (GOES and POES), and DMSP) and derived data products. CLASS is evolving to support additional satellite data streams, such as Jason-2/OSTM, NPP, NPOESS, EOS/MODIS and NOAA's in situ environmental sensors, such as NEXRAD, USCRN, COOP/NERON, and oceanographic sensors and buoys, plus geophysical and solar environmental data.

C. Please list and briefly describe the primary product(s) or service(s) that your organization provides (will provide) to the community.

The CLASS Level 1 requirements document identifies CLASS as an enterprise-wide information technology system supporting long-term, secure storage of and common access to NOAA Archive maintained environmental data and information. As an enterprise system, CLASS primarily supports NOAA Archives in fulfilling their data management and science data stewardship missions. NOAA's National Data Centers and their world-wide clientele of customers view CLASS as a major NOAA IT infrastructure project in which all current and future large array environmental data sets will reside. CLASS provides permanent, secure storage and safe, efficient access between the Data Centers and their customers.

D. Please give a main website address for the proposed Partnership:

Web Address: <http://www.class.noaa.gov>

III. HOW YOUR ORGANIZATION WILL BENEFIT FROM/CONTRIBUTE TO THE EARTH SCIENCE INFORMATION PARTNERS (ESIP) FEDERATION

- A. Describe current or anticipated users of your products and services and how you think the Federation can help you better serve this population. (200 words or less)
- Currently the CLASS system supports a combined total of ~1.2 petabytes of environmental data and is expected to grow exponentially over the next few years. Because of this growth, CLASS must remain at the forefront in implementing state-of-the-art data management systems and procedures as well as collaborating with the user community to better understand functionality that is both beneficial to the user and CLASS. Drawing on the expertise and knowledge of the Federation partners, CLASS will gain new insights into data management and application of environmental data. In turn, CLASS will provide its expertise and establish new alliances with ESIP partners as well as provide practical applications of new technologies.
- B. Describe any Earth science technologies that you have developed and are willing to bring to the Federation's efforts to provide best-practices. (200 words or less)

The CLASS system evolution is managed in accordance with NOAA Administrative Orders and will be modeled on the principles of the International Standard Organization's *Reference Model for an Open Archival Information System (OAIS)*. The CLASS project will support this evolution through an incremental approach with continued operation of existing systems and standards while gradually improving integration through an evolutionary process of pilot projects and iterative improvement.

The CLASS enterprise architecture will be developed in phases in accordance with extant and emerging international, Federal, and agency guidelines and standards, including the Global Earth Observation System of Systems (GEOSS), the Federal Enterprise Architecture, the NOAA Enterprise Architecture and NOAA's integrated data environment. The CLASS project will apply emerging standards of the Global Earth Observing Integrated Data Environment (GEO-IDE), as they are identified, to facilitate CLASS evolution to an enterprise IT system. CLASS adoption of GEO-IDE standards will define the framework by which NOAA's legacy archival storage systems may integrate with CLASS.

- C. Describe how your proposed membership would contribute to the efforts and the mission of one or more standing committees, working groups and/or clusters. See Page 3 for descriptions of the different activities of the various standing committees, working groups, and clusters. (200 words or less)

CLASS' involvement in the Federation will contribute to Community Engagement and Information Technology & Interoperability committees by providing those committees access to CLASS' industry leading support for environmental data management and its experts who have worked in the industry for year. Due to CLASS' continued commitment to provide the best access and dissemination of environmental data to the consumer, these committees can both glean and share new possibilities from/with CLASS.

The CLASS enterprise architecture shall detail NOAA Archive capabilities necessary to support long-term, secure storage of NOAA-approved data, information, and metadata and enable access to these holdings through both human and machine-to-machine interfaces. Capabilities will be provided in three primary functional areas:

- Ingest** will provide the mechanisms by which data, information, and metadata are initially transferred to the system.
 - Archival storage** will provide the means for data, information, and metadata to be stored by the system and will include capabilities to refresh, migrate, transform, update, and otherwise manage these holdings as part of the preservation process.
 - Access** will provide a common enterprise access capability enabling Archive users to identify the kinds of information available through the CLASS system and find and obtain items of particular interest.
- D. Describe your own use of Earth science information and data and how you would see this use enhanced by your partnership in the Federation. (200 words or less)

Developing a component of NOAA's integrated data environment and transitioning existing organizational capability to an emerging enterprise level system introduces challenges above the level of the IT project.

The successful transition of CLASS to an enterprise system is dependant upon NOAA's development and adoption of enterprise business & decision processes, definitions, requirements and standards. The CLASS Project success depends on NOAA's ability to identify standards and requirements with the scope (range of applicability) and the depth (level of completeness in detail) required to adequately guiding CLASS' evolution to an enterprise system. The CLASS project will participate in the Federation with particular emphasis on the long-term, secure storage, access, and data stewardship IT components solutions.

IV. YOUR CHOICE OF MEMBERSHIP TYPE. PLEASE PICK ONE.

ESIP-I (primarily a data archive center)



ESIP-II (primarily a research center)



ESIP-III (primarily applications and education)



ESIP-IV (primarily a sponsoring member)



V. Any other comments about your proposed membership and its relation to the Federation that you wish to provide.

Thank you for your application for partnership in the ESIP Federation.